



UNITED STATES PATENT AND TRADEMARK OFFICE

ET
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,510	10/24/2003	Shiraz Ali Qureshi	100201811-1	2234
22879	7590	07/26/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			INGBERG, TODD D	
		ART UNIT	PAPER NUMBER	
			2193	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/693,510	QURESHI, SHIRAZ ALI
	Examiner	Art Unit
	Todd Ingberg	2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10/24/03 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claims 1 – 22 have been examined.

Drawings

1. The drawings filed October 24, 2003 have been accepted.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1- 22 are rejected under 35 U.S.C. 101 because

The current focus of the Patent Office in regard to statutory inventions under 35 U.S.C. § 101 for method claims and claims that recite a judicial exception (software) is that the claimed invention recite a practical application. Practical application can be provided by a physical transformation or a useful, concrete and tangible result. No physical transformation is recited and additionally, the final result of the claim is a preprocessor which is not a tangible result because results are not tangible embodied on a computer readable medium. The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf>

The following shows how the rejection for claim 1 can be overcome.

Claim 1

A computer-implemented method for compiling ASL (ACPI Source Language) code into AML (ACPI machine language) code, comprising: accessing an ASL program; executing a preprocessor to process the ASL program and to insert support for at least one non-native programming construct; and processing the ASL program using an ASL compiler to compile the ASL program into a resulting AML program and stored on a computer readable medium.

NOTE: Figure 2 #207 provides support for different types of tangibly embodied computer readable medium.

Allowable Subject Matter

3. Claims 1 – 22 are allowable over prior art of record on technical merit.

On page 2 of the Specification the Applicant lays out the problem statement that the invention corrected.

"A problem exists however, in fact that the well known, widely used ASL compilers are relatively primitive in comparison to other programming tools for other languages (e.g., C, C++, Java, etc.). There currently exists no support for a number of higher level constructs which are widely implemented in compilers for higher level languages. For example, there is no support in ACPI for object names longer than four characters, and no support for sharing C header files between ACPI and system, firmware. There currently exists no support for embedded ASL code that "morphs" at compile time in accordance with certain platform variances, and no support for the inclusion within ASL routines anything that is not an ASL file."

Lack of support for these higher-level constructs renders ASL code much harder to maintain, debug, and develop. The lack of support for these high level constructs consequently makes ASL files much less reusable, much less portable, and much less shareable, in comparison to other programming languages."

The claimed invention provides by inserting programming constructs into the ASL program has claimed the preprocessor aspect of the ACPI preprocessor. The addition of a preprocessor to overcome the limitations of the prior art as stated above was not found in combination or singularly by the prior art of record.

One teaching of using a preprocessor to achieve platform independence is the Ramkumar et al patents USPN #6,161,219 and #6,154,877. Although, the final solution is fault tolerant code the concept of overcoming problems of programming language restriction with the introduction of a preprocessor is well documented. Preprocessors for programming languages as eluded to in the Specification are not new. Prior art of record documents preprocessors in ANSI standard languages such as C and the addition of a preprocessor to Java™. In reviewing the references in search of a combination that could correct the problem statement as found on page 2 of the Specification the Examiner could not find sufficient motivation to combine references to achieve the result of the invention.

The claims are presented below:

Claim 1

A computer-implemented method for compiling ASL (ACPI Source Language) code into AML (ACPI machine language) code, comprising: accessing an ASL program; executing a preprocessor to process the ASL program and to insert support for at least one non-native

programming construct; and processing the ASL program using an ASL compiler to compile the ASL program into a resulting AML program.

Claim 2

The computer implemented method of claim 1, wherein the non-native programming construct is included in the ASL program and is tolerated by the ASL compiler during the compile of the ASL program into the resulting AML program.

Claim 3

The computer implemented method of claim 1, wherein the non-native programming construct comprises object names having more than four characters.

Claim 4

The computer implemented method of claim 1, wherein the non-native programming construct comprises at least one shared C header file configured for sharing between the ASL program and a firmware program.

Claim 5

The computer implemented method of claim 1, wherein the non-native programming construct comprises code configured to change at compile-time to support a platform variance.

Claim 6

The computer implemented method of claim 1, wherein the non-native programming construct comprises at least one C header file.

Claim 7

The computer implemented method of claim 1, wherein the non-native programming construct comprises a Zeta-string variable.

Claim 8

A compiling method for compiling ASL (ACPI Source Language) code into AML (ACPI machine language) code, comprising: accessing an ASL program; executing a preprocessor to process the ASL program and to insert support for at least one non-native programming construct; and generating an input ASL program by using the preprocessor, the input ASL program generated in accordance with the ASL program and the at least one non-native programming construct; processing the input ASL program using an ASL compiler to compile the input ASL program into a resulting AML program.

Claim 9

The compiling method of claim 8 wherein the preprocessor generates the input ASL program in accordance with preprocessor instructions contained within the nonnative programming construct.

Claim 10

The compiling method of claim 9 wherein the generation of the input ASL program by the preprocessor is controlled by conditions specified by the instructions.

Claim 11

The compiling method of Claim 10 wherein the processing of the input ASL program by the ASL compiler yields the resulting AML program that functions in accordance with the conditions specified by the instructions.

Claim 12

The compiling method of claim 11, wherein the non-native programming construct comprises object names having more than four characters.

Claim 13

The compiling method of claim 11, wherein the non-native programming construct comprises at least one shared C header file configured for sharing between the ASL program and a firmware program.

Claim 14

The compiling method of claim 11, wherein the non-native programming construct comprises code configured to change at compile-time to support a platform variance.

Claim 15

The compiling method of claim 11, wherein the non-native programming construct comprises at least one C header file.

Claim 16

The compiling method of claim 11, wherein the non-native programming construct comprises a Zeta-string variable.

Claim 17

A computer-readable medium embodying instructions that cause a computer system to perform a method for compiling ASL (ACPI Source Language) code into AML (ACPI machine language) code, said method comprising: accessing an ASL program; executing a preprocessor to process the ASL program and to insert support for at least one non-native programming construct; and processing the ASL program using an ASL compiler to compile the ASL program into a resulting AML program.

Claim 18

The computer-readable medium of claim 17, wherein the non-native programming construct is included in the ASL program and is tolerated by the ASL compiler during the compile of the ASL program into the resulting AML program.

Claim 19

The computer-readable medium of claim 17, wherein the preprocessor generates the ASL program in accordance with preprocessor instructions contained within the non-native programming construct.

Claim 20

The computer-readable medium of claim 19, wherein the generation of the ASL program by the preprocessor is controlled by conditions specified by the instructions.

Claim 21

A system for compiling ASL (ACPI Source Language) code into AML (ACPI machine language) code, comprising: means for accessing an ASL program; means for executing a preprocessor to process the ASL program and to insert support for at least one non-native programming construct; and means for processing the ASL program using an ASL compiler to compile the ASL program into a resulting AML program.

Claim 22

The system of claim 21, wherein the non-native programming construct is included in the ASL program and is tolerated by the ASL compiler during the compile of the ASL program into the resulting AML program.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd Ingberg whose telephone number is (571) 272-3723. The examiner can normally be reached on during the work week..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Todd Ingberg
Primary Examiner
Art Unit 2193

TI